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(21) International Application Number: PCT/DK00/00092 (22) International Filing Date: 6 March 2000 (06.03.00) (30) Priority Data: PA 1999 00317 5 March 1999 (05.03.99) DK (71) Applicants (for all designated States except US): HATTING-KS [DK/DK]; Oensvej 48, Hattig, DK-8700 Horsens (DK). DE DANSKE KVÆGAVLSFORENINGER [DK/DK]; Udkærsvvej 15, Skejby, DK-8200 Århus N (DK). (72) Inventors; and (75) Inventors/Applicants (for US only): CHRISTENSEN, Preben [DK/DK]; Dalgas Boulevard 89, 1.th., DK-2000 Frederiksberg (DK). STENVANG, Jens, Peter [DK/DK]; Bransbjergvej 119, DK-2600 Glostrup (DK). (74) Agent: PLOUGMANN, VINGTOFT & PARTNERS A/S; Sankt Annæ Plads 11, P.O. Box 3007, DK-1021 Copenhagen K (DK).		(81) Designated States: AE, AL, AM, AT, AT (Utility model), AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, CZ (Utility model), DE, DE (Utility model), DK, DK (Utility model), DM, EE, EE (Utility model), ES, FI, FI (Utility model), GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (Utility model), SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i>
(54) Title: DETERMINATION OF SPERM CONCENTRATION AND VIABILITY FOR ARTIFICIAL INSEMINATION		
(57) Abstract <p>A method for the simultaneous determination of the total concentration of sperm cells and the proportion of live sperm cells in a semen sample is provided. By selective staining of live, dead and/or dying sperm cells, for example using one or more fluorochromes, the detection means can distinguish between live, dead and/or dying sperm cells, for example by detection of the fluorescent response from the sperm cells. The selective staining may be performed at room temperature and in concentrations below standard concentrations. The determination may be performed by selective counting of cells of each fluorescent quality for example by using a flow cytometer having internal concentration standard means. Furthermore, the likelihood of fertilizing a female animal with an insemination dose, taken from a semen sample having a known total concentration of sperm cells and a known proportion of live sperm cells, is predicted on the basis of the thus determined total concentration of sperm cells and the proportion of live sperm cells.</p>		

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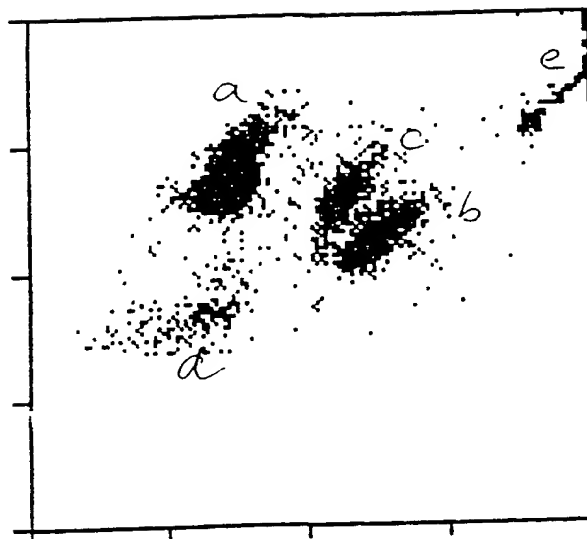


Fig. 1

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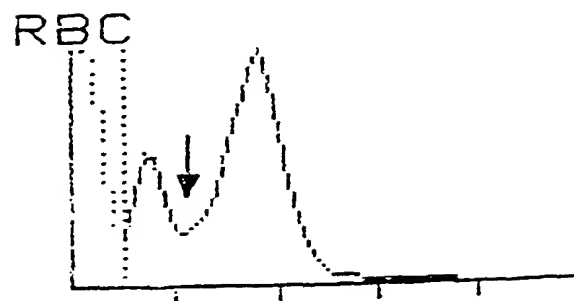


Fig. 2A

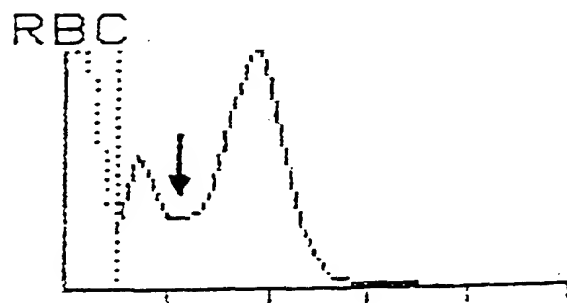


Fig. 2B

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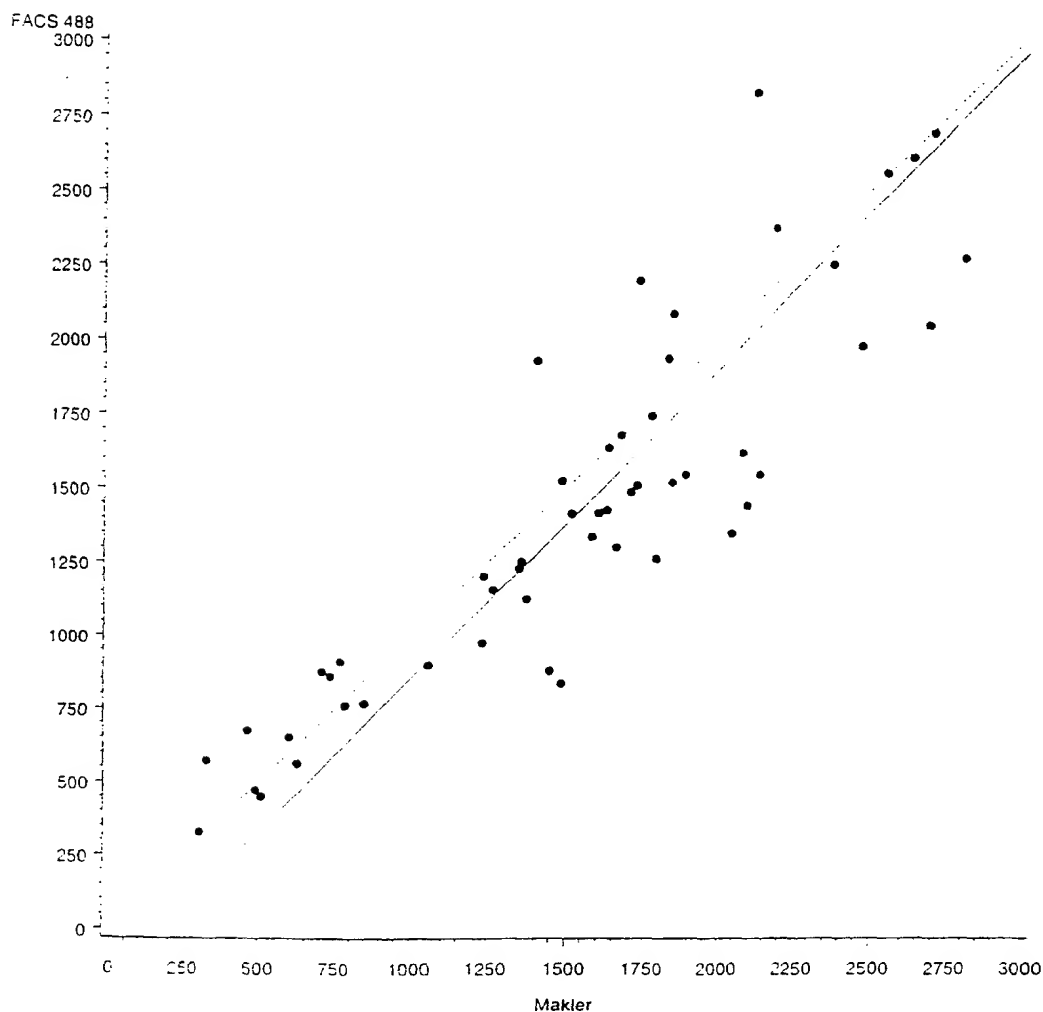


Fig. 3

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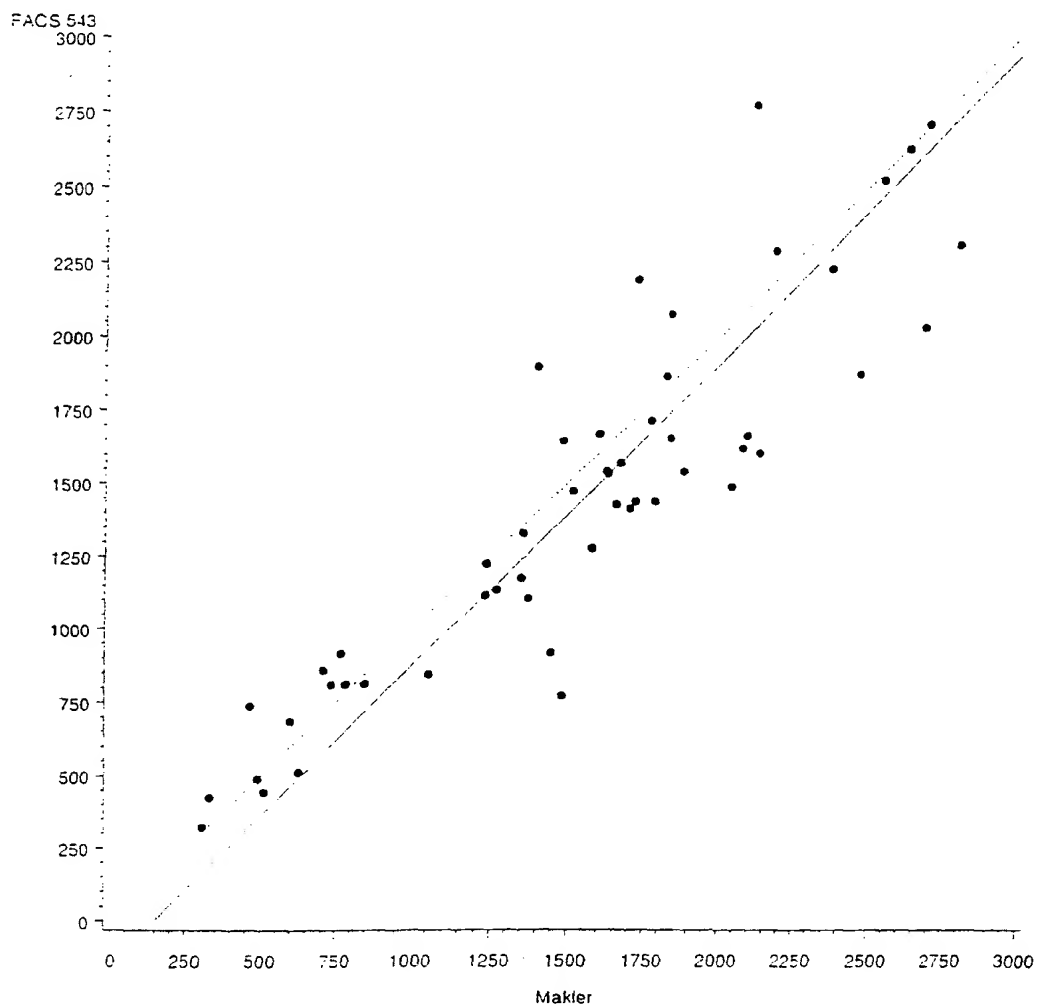


Fig. 4

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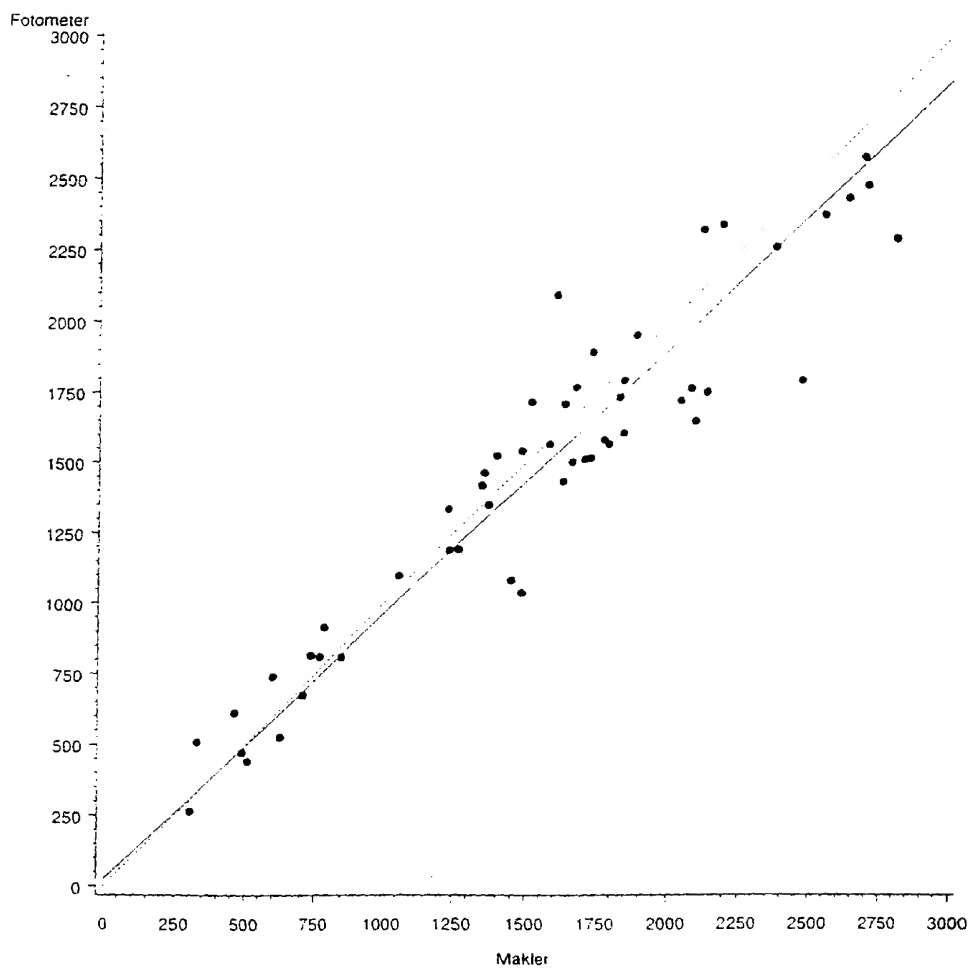


Fig. 5

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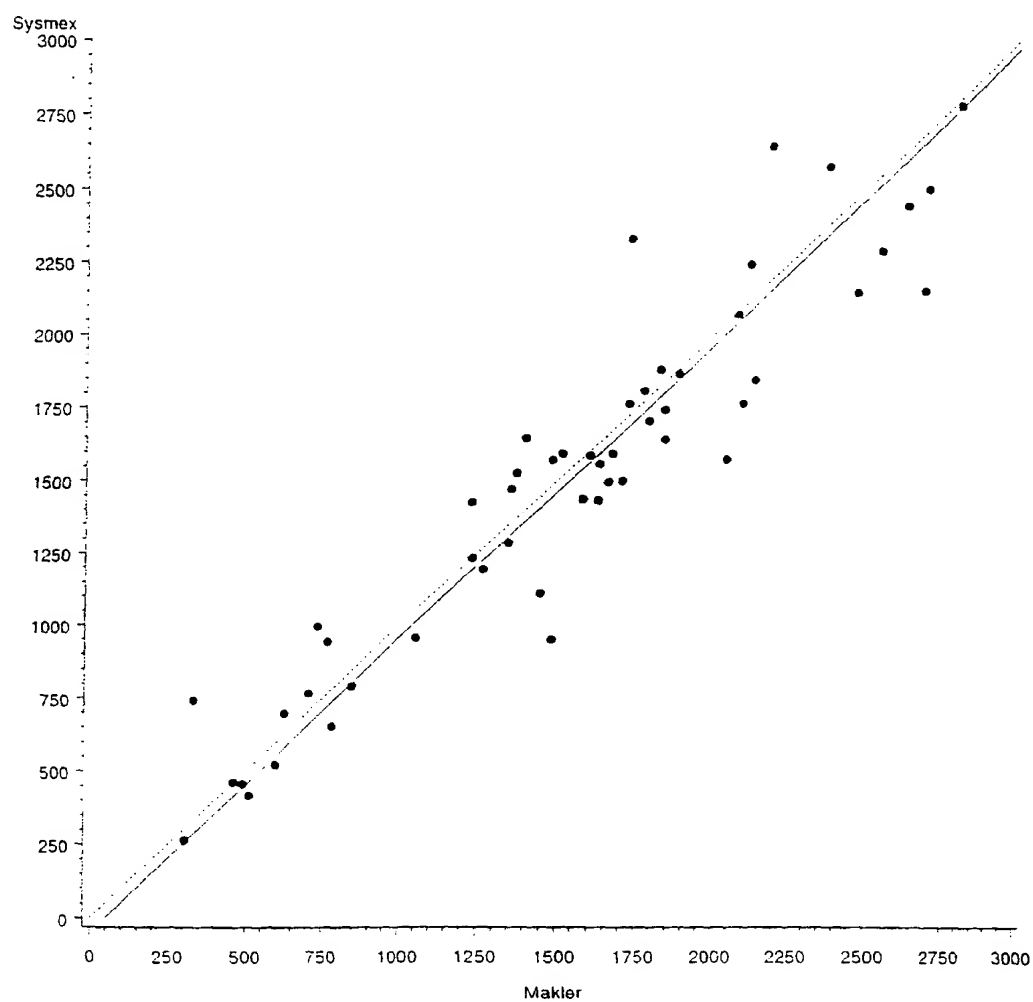


Fig. 6

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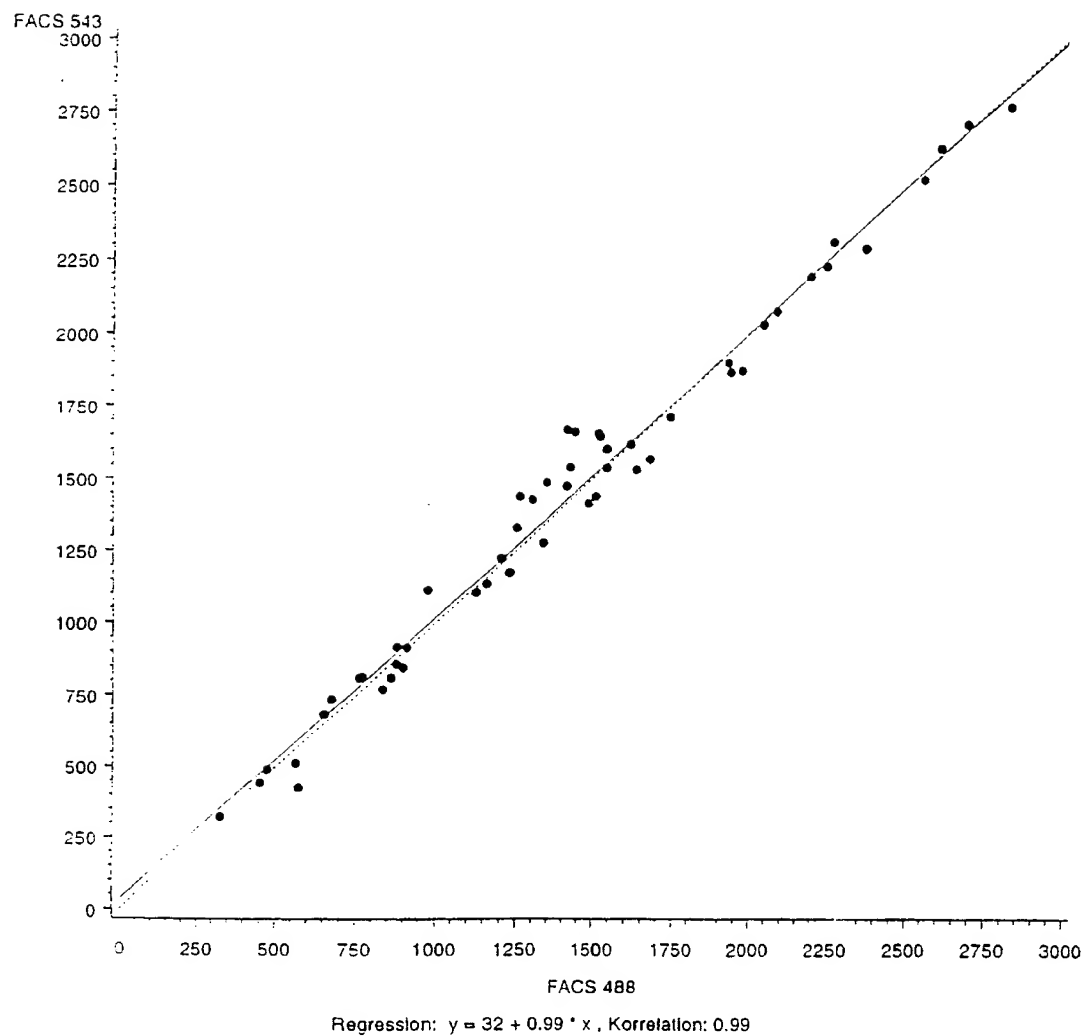


Fig. 7

INTERNATIONAL SEARCH REPORT

International Application No

PCT/DK 00/00092

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G01N15/14

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>GB 2 214 518 A (INNOFINANCE ALTALANOS INNOVACIOS PENZINTEZET) 6 September 1989 (1989-09-06) figure 1 page 7, line 5 -page 10, line 21 page 5, line 9 -page 6, line 4 page 3, line 10 - line 25 page 2, line 12 - line 15 page 1, line 4 - line 14 --- -/--</p>	1,7-10, 33



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Y	<p>US 4 559 309 A (EVENSON) 17 December 1985 (1985-12-17) cited in the application abstract column 3, line 43 - column 4, line 21 column 4, line 58 - line 65 column 5, line 6 - line 12 column 5, line 34 - line 47 column 5, line 65 - line 66</p>	1-12, 17-24, 26-28
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International Application No.

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A	WO 95 29983 A (PENN STATE) 9 November 1995 (1995-11-09) page 1, paragraph 1 - paragraph 3 examples 3,10,11; table 1 -----	33,37,38

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